

CLAIMS

1. ADJUSTABLE MODULAR SUPPORT FOR MODULAR STAIRCASES, of the type in which the tread plane of the stair is set and fastened on one or more co-planar flat portions defining a plane perpendicular to the axes of two staggered, parallel cylindrical sleeves of a suitable diameter for the successive couplings along vertical pivot axes, at which the rises and the progression of the flights are to be defined, mainly characterised in that it is made up of two elements connected to one another so as to allow, upon installation, the manual adjustment of the distance between the centres of the aforementioned two sleeves according to the selected tread.
- 15 2. MODULAR SUPPORT, according to the previous claim, characterised in that from the cylindrical sleeves of the two elements which make up the modular support, special arms extend transversally, shaped and sized to allow them to be inserted longitudinally inside each other, as well as arranged so as to allow them to be locked together after the adjustment of the tread, or rather of the distance between the centres of the aforementioned sleeves.
- 25 3. MODULAR SUPPORT, according to the previous claims, characterised in that the arms longitudinally inserted into each other for the telescopic adjustment of the tread are perpendicular to the cylindrical sleeves from which they extend, so that the adjustment of the treads has no influence upon the rises.
- 30 4. MODULAR SUPPORT, according to the previous claims, characterised in that the arms cantilevered from the two sleeves to be inserted longitudinally into each other and to allow the telescopic adjustment of the tread have a virtually rectangular section or at least such as to allow them to be locked together with one or more screw

locking means which pass through them parallel to those faces of the outer horizontal arm which, perpendicular to those passed through by the aforementioned locking means, both have a longitudinal middle interruption of such a width and length as to allow the aforementioned outer arm the necessary elastic yield to block the inner arm inserted in it.

5. MODULAR SUPPORT, according to the previous claims, characterised in that the two arms longitudinally inserted into each other for the telescopic adjustment of the tread are sized and arranged so that, in maximum insertion and minimum tread condition, the inner arm, welded to the outside of one of the sleeves, can reach horizontally beyond the vertical axis of the cylindrical sleeve into which the outer arm welded in it structurally penetrates.
10. MODULAR SUPPORT, according to claim 5, characterised in that in maximum mutual insertion condition of the two horizontal arms, the end of the inner arm extends inside the vertical cylindrical sleeve in which, for such a purpose, the outer arm is fastened to protrude from a suitable side opening.
15. MODULAR SUPPORT, according to claim 5, characterised in that the inner horizontal arm is welded against the cylindrical surface of the vertical sleeve from which it extends whereas the outer horizontal arm is welded against one of the two horizontal bases of its own sleeve to offer a wider adjustment of the tread and greater structural rigidity.
20. MODULAR SUPPORT, according to claim 5, characterised in that in a support according to figs. 3 and 4, made up of a front element A and a rear element B connected to each other so as to allow the adjustment of the tread, the sleeve A1 and the arm A2 are intended the
25. MODULAR SUPPORT, according to claims 1 to 6, characterised in that in a support according to figs. 3 and 4, made up of a front element A and a rear element B connected to each other so as to allow the adjustment of the tread, the sleeve A1 and the arm A2 are intended the
30. MODULAR SUPPORT, according to claims 1 to 6, characterised in that in a support according to figs. 3 and 4, made up of a front element A and a rear element B connected to each other so as to allow the adjustment of the tread, the sleeve A1 and the arm A2 are intended the

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former to receive the sleeve B1 of the vertically adjacent support and the latter to be inserted in the arm B2 structurally reaching inside the sleeve B1 and having, in the two faces parallel to the axis of the sleeves, a longitudinal middle interruption B3 to elastically comply with the locking member T passing through the arms A2 and B2 perpendicular to them and parallel to the sleeves.

9. MODULAR SUPPORT, according to claims 1 to 6, characterised in that in a support according to figs. 5 and 6, made up of a front element C and a rear element D connected to each other so as to allow the adjustment of the tread, the sleeve C1 and the arm C2 are intended the former to receive the sleeve D1 of the vertically adjacent support and the latter to be inserted in the arm D2 structurally reaching inside the sleeve D1 and having, in the two faces perpendicular to the axis of the sleeves, a longitudinal middle interruption D3 to elastically comply with the locking member T passing through the arms C2 and D2 perpendicular to them and to the plane passing through the axes of the sleeves C1 and D1.

10. MODULAR SUPPORT, according to claims 1 to 6, characterised in that in a support according to figs. 7 and 8, made up of a front element E and a rear element F connected to each other so as to allow the adjustment of the tread, the sleeve F1 and the arm F2 are intended the former to receive the sleeve E1 of the vertically adjacent support and the latter to be inserted in the arm E2 structurally reaching inside the sleeve E1 and having, in the two faces parallel to the axis of the sleeves, a longitudinal middle interruption E4 to elastically comply with the locking member T passing through the arms E2 and F2 perpendicular to them and parallel to the sleeves.

11. MODULAR SUPPORT, according to claims 1 to 6, characterised in that in a support according to figs. 9 and 10, made up of a front element G and a rear element H connected to each other so as to allow the adjustment of the tread, the sleeve H1 and the arm H2 are intended the former to receive the sleeve G1 of the vertically adjacent support and the latter to be inserted in the arm G2 structurally reaching inside the sleeve G1 and having, in the two faces perpendicular to the axis of the sleeves, a longitudinal middle interruption G3 to elastically comply with the locking member T passing through the arms G2 and H2 perpendicular to them and to the plane passing through the axes of the sleeves G1 and H1.

15 12. MODULAR SUPPORT; according to claim 7, characterised in that in a support according to figs. 11 and 12, made up of a front element L and a rear element M connected to each other so as to allow the adjustment of the tread, the sleeve L1 and the arm L2 are intended the former to receive the sleeve M1 of the vertically adjacent support and the latter to be inserted in the arm M2 welded against the lower horizontal base of its sleeve M1 as well as provided, in the two faces parallel to the axis of the sleeves, with a longitudinal middle interruption M3 to elastically comply with the locking member T passing through the arms L2 and M2 perpendicular to them and parallel to the sleeves.

13. MODULAR SUPPORT, according to claim 7, characterised in that in a support according to figs. 13 and 14, made up of a front element N and a rear element O connected to each other so as to allow the adjustment of the tread, the sleeve N1 and the arm N2 are intended the former to receive the sleeve O1 of the vertically adjacent support and the latter to be inserted in the arm O2 welded against the lower horizontal base of its sleeve O1 as well as provided, in the two faces perpendicular to the

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axis of the sleeves, with a longitudinal middle interruption O3 to elastically comply with the locking member T passing through the arms N2 and O2 perpendicular to them and to the plane passing through
5 the axis of the sleeves N1 and O1.

14. MODULAR SUPPORT, according to claim 7, characterised in that in a support according to figs. 15 and 16, made up of a front element P and a rear element Q connected to each other so as to allow the adjustment of the tread,
10 the sleeve Q1 and the arm Q2 are intended the former to receive the sleeve P1 of the vertically adjacent support and the latter to be inserted in the arm P2 which, completed by inserts P4 for the fastening of the tread plane of the stair, is welded against the upper
15 horizontal base of its own sleeve P1 and also provided, in the two faces parallel to the axis of the sleeves, with a longitudinal middle interruption P3 to elastically comply with the locking member T passing through the arms P2 and Q2 perpendicular to them and
20 parallel to the sleeves.

15. MODULAR SUPPORT, according to claim 7, characterised in that in a support according to figs. 17 and 18, made up of a front element R and a rear element S connected to each other so as to allow the adjustment of the tread,
25 the sleeve S1 and the arm S2 are intended the former to receive the sleeve R1 of the vertically adjacent support and the latter to be inserted in the arm R2 which, completed by inserts R4 for the fastening of the tread plane of the stair, is welded against the upper
30 horizontal base of its own sleeve R1 and also provided, in the two faces perpendicular to the axis of the sleeves, with a longitudinal middle interruption R3 to elastically comply with the locking member T passing through the arms R2 and S2 perpendicular to them and to
35 the plane passing through the axes of the sleeves R1 and S1.

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16. MODULAR SUPPORT, according to any one of all previous claims, characterised by the replacement of two cylindrical sleeves with as many analogously sized and arranged prismatic tubes, their function being
5 analogous.

17. MODULAR SUPPORT, according to claim 16, characterised in that the two prismatic tubes have a regular polygon section when, besides staircases with rectilinear flights, it is necessary to form staircases which have
10 in plan view, between one stair and the other, an angle equal to those of the aforementioned polygon or to a multiple thereof.

18. MODULAR SUPPORT, according to the previous claims, characterised in that the locking to each other of the
15 cylindrical sleeves or of the prismatic tubes of two consecutive modular supports is accomplished with pressure screws inserted in the threaded through-bores of the outer element until they act against the inner one after adjustment of the rise and of the mutual
20 orientation of the two supports when they are sleeves.

19. MODULAR SUPPORT, according to claim 18, characterised in that, should the thickness of the outer element not be sufficient to ensure the necessary grip of the screws, said screws, according to the version of fig. 21
25 where they constrain to one another the outer element 1 and the inner element 2, are screwed into threaded seats arranged inside small collars 1' formed by drawing in the outer element 1.

20. MODULAR SUPPORT, according to claim 18, characterised
30 in that, should the thickness of the outer element not be sufficient to ensure the necessary grip of the screws, said screws, according to the version of fig. 22 where they constrain to one another the outer element 3 and the inner element 5, are screwed into threaded

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bushes or nuts 4 held in suitable bored seats 3' formed from the outer element 3 through drawing.

21. MODULAR SUPPORT, according to claim 18, characterised in that, should the thickness of the outer element not
5 be sufficient to ensure the necessary grip of the screws, said screws, according to the version of fig. 23, are screwed into special threaded bushes 7 inserted in suitable holes of the outer element 6 and held inside it by their own small retention collars having virtually
10 the same thickness as the centring jacket 8 which, placed between the outer element 6 and the inner element 9, is bored at the small retention collars of the aforementioned threaded bushes 7.

22. ADJUSTABLE MODULAR SUPPORT FOR MODULAR STAIRCASES,
15 according to all of the previous claims, substantially as illustrated and described for the specified purposes and independently of those changes or variants which can in practice be made without departing from the present patent scope.